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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Zhe-Hong CHEN et al.

Group Art Unit: 2621

Application No.: 09/877,002 ✓

Filed: June 11, 2001 ✓

Docket No.: 108977

For: INTERPOLATION PROCESSING APPARATUS AND RECORDING MEDIUM
HAVING INTERPOLATION PROCESSING PROGRAM RECORDED THEREIN

SUBMISSION OF TRANSLATION OF INTERNATIONAL PRELIMINARY
EXAMINATION REPORT (IPER)

RECEIVED

Director of the U.S. Patent and Trademark Office
Washington, D. C. 20231

OCT 24 2002

Technology Center 2600

Sir:

Submitted herewith is a translation of the International Preliminary Examination Report (IPER) issued in corresponding International Application No. PCT/JP00/09040. The references cited in the IPER have previously been submitted to the U.S. Patent and Trademark Office with the Information Disclosure Statement filed June 11, 2001.

Respectfully submitted,

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3-P
Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

| | | |
|---|---|--|
| Applicant's or agent's file reference N00139P | FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) | |
| International application No. PCT/JP00/09040 | International filing date (<i>day/month/year</i>) 20 December 2000 (20.12.00) | Priority date (<i>day/month/year</i>) 21 December 1999 (21.12.99) |
| International Patent Classification (IPC) or national classification and IPC H04N 1/56, G06T 1/00, H04N 9/07 | | |
| Applicant NIKON CORPORATION | | |

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
- ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of _____ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

| | |
|---|--|
| Date of submission of the demand 01 June 2001 (01.06.01) | Date of completion of this report 25 February 2002 (25.02.2002) |
| Name and mailing address of the IPEA/JP | Authorized officer |
| Facsimile No. | Telephone No. |

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP00/09040

I. Basis of the report

1. With regard to the elements of the international application:*

- ☒ the international application as originally filed
- ☐ the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the claims:
pages _____, as originally filed
pages _____, as amended (together with any statement under Article 19
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the drawings:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

| | | | |
|-------------------------------|--------|--------|-----|
| Novelty (N) | Claims | 1 - 29 | YES |
| | Claims | | NO |
| Inventive step (IS) | Claims | 1 - 29 | YES |
| | Claims | | NO |
| Industrial applicability (IA) | Claims | 1 - 29 | YES |
| | Claims | | NO |

2. Citations and explanationsClaims 1 to 29

Document 1: JP, 11-331860, A (Nikon Corporation),
November 30, 1999

Document 2: JP, 11-7506, A (Fuji Photo Film Co., Ltd.),
March 16, 1999

Document 3: JP, 8-228296, A (Ricoh Co., Ltd.), September
3, 1996

Document 4: JP, 8-65696, A (Mitsubishi Electric Corp.),
March 8, 1996

Document 5: JP, 5-48886, A (Konica Corporation), February
26, 1993

The invention set forth in Claims 1 to 29 involves an inventive step in relation to Documents 1 to 5 cited in the international search report.

Document 1 discloses an interpolation processor which carries out interpolation by determining an interpolating quantity equivalent to the value of the colour components lacking in each of the pixels with respect to colour image data given by the predetermined colour system comprising a plurality of colours. Documents 2 to 5 disclose conventional interpolation techniques for colour image data. However, the feature of carrying out interpolation with respect to colour image data by calculating a interpolating value comprising at least (1) local average

information of the first colour component relating to the pixel to which interpolation is applied and (2) local inflection information of two or more colour components relating to the pixel to which interpolation is applied, is not disclosed in any of these documents. Moreover, it would not be easy for a person skilled in the art to conceive of the invention set forth in Claims 1 to 29 by combining the features disclosed in Documents 1 to 5.